



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
2004/00191

April 30, 2004

Mr. Lawrence C. Evans
Chief, Regulatory Branch
Portland District, U.S. Army Corps of Engineers
Attn: CENWP-OP-GP
P.O. Box 2946
Portland, OR 97208-2946

Re: Endangered Species Act Section 7 Formal and Informal Consultation and Magnuson-Stevens Fisheries and Conservation Management Act Essential Fish Habitat Consultation for the McCoy Meander Restoration Project, Upper Grande Ronde River Subbasin, Union County, Oregon (Corps No. 200300429).

Dear Mr. Evans:

Enclosed is a document prepared by NOAA's National Marine Fisheries Service (NOAA Fisheries) pursuant to section 7 of the Endangered Species Act (ESA) on the effects of issuing a permit for the proposed McCoy Meander Restoration Project. The U.S. Army Corps of Engineers (COE) has determined that the proposed project is "not likely to adversely affect" Snake River (SR) spring/summer chinook salmon (*Oncorhynchus tshawytscha*). This document will serve as NOAA Fisheries' concurrence with this determination.

The COE has also determined that the proposed project is "likely to adversely affect" SR steelhead (*O. mykiss*). In the biological opinion contained in this document, NOAA Fisheries concludes that the proposed action is not likely to jeopardize the continued existence of SR steelhead (*O. mykiss*). As required by section 7 of the ESA, NOAA Fisheries included reasonable and prudent measures with nondiscretionary terms and conditions that NOAA Fisheries believes are necessary to minimize the impact of incidental take associated with this action.

This document also serves as consultation on essential fish habitat (EFH) pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act and implementing regulations at 50 CFR Part 600. The Upper Grande Ronde River subbasin has been designated as EFH for chinook salmon and coho salmon (*Oncorhynchus kisutch*). Section 305(b)(4)(B) of the MSA requires Federal agencies to provide a detailed written response to NOAA Fisheries within 30 days after receiving these recommendations. If the response is inconsistent with the recommendations, the action agency must explain why the recommendations will not be



followed, including the justification for any disagreements over the effects of the action and the recommendations.

If you have any questions regarding this consultation please contact Eric Murray of my staff in the Eastern Oregon Branch of the Oregon State Habitat Office, at 541.975.1835, ext. 222.

Sincerely,

for Michael R. Crouse

D. Robert Lohn
Regional Administrator

cc: John Kinney, USFWS
Jeff Zakel, ODFW

Endangered Species Act - Section 7 Consultation Biological Opinion

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Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation

McCoy Meander Restoration Project,
Upper Grande Ronde River Subbasin, Union County, Oregon
(Corps No. 200300429)

Agency: U.S. Army Corps of Engineers

Consultation
Conducted By: National Marine Fisheries Service,
Northwest Region

Date Issued: April 30, 2004

Issued by: 

D. Robert Lohn
Regional Administrator

Refer to: 2004/00191

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1. INTRODUCTION

The Endangered Species Act (ESA) of 1973 (16 USC 1531-1544), as amended, establishes a national program for conserving threatened and endangered species of fish, wildlife, plants, and the habitat on which they depend. Section 7(a)(2) of the ESA requires Federal agencies to consult with NOAA's National Marine Fisheries Service (NOAA Fisheries) and U.S. Fish and Wildlife Service (together "Services"), as appropriate, to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or adversely modify or destroy their designated critical habitats. This biological opinion (Opinion) is the product of an interagency consultation pursuant to section 7(a)(2) of the ESA and implementing regulations 50 CFR 402.

The analysis also fulfills the essential fish habitat (EFH) requirements under the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance EFH for those species regulated under a Federal fisheries management plan. Federal agencies must consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH (section 305(b)(2)).

The U.S. Army Corps of Engineers (COE) proposes to issue a permit, under section 404 of the Clean Water Act, for the McCoy Meander Restoration Project. The administrative record for this consultation is on file at the Oregon State Habitat Office.

1.1 Background and Consultation History

NOAA Fisheries received a letter requesting formal ESA section 7 consultation on McCoy Meander Restoration Project (Project) on February 24, 2004. A complete biological assessment (BA) and EFH assessment for this project were also received at this time and consultation was initiated. On March 3, 2004, NOAA Fisheries conducted a site visit to the project area. On March 5, 2004, the COE sent additional information to NOAA Fisheries indicating that the construction of a sediment basin, planned as part of this Project, had been dropped from the Project design.

The BA states that the purpose of the proposed Project is to improve water quality and fish and wildlife habitat. Smith Creek, a tributary of Dry Creek, was previously diverted and channelized to flow through a roadside ditch and then through a livestock corral. The livestock have direct access to Smith Creek, and bare soil is exposed within the corral.

This Project proposes to redirect approximately 1,000 feet of Smith Creek back into the original channel. This would move the stream channel out of the roadside ditch and livestock corral. Additionally, a headgate with a fish screen will be installed at a diversion point in the new channel and an off-stream livestock watering trough will be installed in the corral area.

The COE has determined that the proposed Project is “not likely to adversely affect”(NLAA) SR spring/summer chinook salmon and is “likely to adversely affect” (LAA) SR steelhead. This document will serve as NOAA Fisheries’ concurrence on the NLAA determination, with concurrence based on the information provided in the BA and developed during consultation with the COE. The objective of the Opinion in this document is to determine whether the Project is likely to jeopardize the continued existence of SR steelhead.

The objective of the EFH consultation is to determine whether the Project may adversely affect designated EFH for relevant species, and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects on EFH resulting from the action.

1.2 Proposed Action

Proposed actions are defined in the Services’ consultation regulations (50 CFR 402.02) as “all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas.” Additionally, U.S. Code (16 U.S.C. 1855(b)(2)) further defines a Federal action as “any action authorized, funded, or undertaken or proposed to be authorized, funded, or undertaken by a Federal agency.” Because the COE proposes to permit the Projects that may affect listed resources, it must consult under ESA section 7(a)(2) and MSA section 305(b)(2).

The COE proposes to issue a permit for a stream meander restoration project on Smith Creek, a small stream in the Upper Grande Ronde River subbasin. The legal description of the project area is Union County T1N, R38E, Sec. 34 (NE/SE) and 35 (NW/SW).

Approximately 1,000 feet of new stream channel will be constructed beside the current channel. The channel will meander through a small grove of aspen and conifer trees. The shape and elevation of the creek meanders will be based on local topography and historical photos of the creek. Woody debris that is removed during construction will be laid across the stream to create shaded habitat for fish. The sides of the new channel will be seeded and the bottom of the channel will be lined with gravel. The old stream channel will be filled at the point of new channel diversion, but the remaining portion of the old channel will not be filled, as it will still function as a roadside ditch.

Proposed conservation measures for the Project include the following:

- Instream work will be conducted during the Oregon Department of Fish and Wildlife (ODFW) in-water work window for tributaries of the Grande Ronde River.
- All construction equipment will be operated and maintained outside the high water line of the creek.
- The new channel will be constructed, revegetated, and allowed to “heal” before water diversion.

- All spoils from the new channel construction will be disposed of in adjacent upland areas.

2. ENDANGERED SPECIES ACT

2.1 Concurrence on NLAA Activities

The COE has determined that the proposed Project is NLAA SR spring/summer chinook salmon. NOAA Fisheries concurs with the NLAA determinations made by the COE. Concurrence is based on the following considerations: (1) SR spring/summer chinook salmon are not present in the Project area or for several miles downstream; and (2) the proposed Project will result in improved water quality in Smith Creek. Therefore, the proposed Project is expected to have insignificant, discountable, or beneficial effects on SR spring/summer chinook salmon and their habitat.

2.2 Biological Opinion

2.2.1 Biological Information

SR Steelhead

The SR steelhead evolutionarily significant unit (ESU) was listed as threatened on August 18, 1997 (62 FR43937). The SR spring/summer chinook salmon ESU was listed as threatened on April 22, 1992 (57 FR 14653). Protective regulations for SR steelhead were issued under section 4(d) of the ESA on July 10, 2000 (65 FR 42422). Biological information for SR steelhead is found in Busby et al. (1996). Recent counts of upstream migration at Lower Granite Dam show at least some short-term improvement in the numbers of adults returning to spawn. The Grande Ronde River is one of the principal basins in the Snake River drainage contributing to salmon and steelhead production. Interim abundance targets for SR steelhead are found in Table 1.

The SR steelhead ESU contains portions of southeastern Washington, northeastern Oregon, and north/central Idaho. The environmental conditions within this ESU are generally drier and warmer than in other steelhead ESUs. The SR steelhead run is considered a summer run, based on adult upstream migration. Adults enter the Columbia River in the summer, migrating upriver until they spawn in the spring between March and May. Runs found in the Grande Ronde system are generally A-run fish, or fish that have spent one year in the ocean.

Table 1. Interim abundance targets for Snake River steelhead in the Grande Ronde River spawning aggregation (Adapted from NOAA 2003).

ESU/Spawning Aggregations*	Interim Abundance Targets	Interim Productivity Objectives
<i>Snake River Steelhead ESU</i>		Snake River ESU steelhead populations are currently well below recovery levels. The geometric mean Natural Replacement Rate (NRR) will therefore need to be greater than 1.0.
Grande Ronde		
Lower Grande Ronde	2600	
Joseph Creek	1400	
Middle Fork	2000	
Upper Mainstem	4000	
Imnaha	2700	

*Population in bold is addressed in this Opinion

There are very few annual estimates of steelhead returns throughout the Snake River Basin. Returns over the Lower Granite Dam were low during the 1990s, however run estimates in the Grande Ronde and Imnaha have improved since the 1990s (NOAA 2003). The long-term population trends have remained negative, while the short-term population trends for the ESU have improved in comparison to the time frame analyzed in the last status review (NOAA 2003). The median long-term population growth rate (λ) is 0.998 based on the assumption that only natural-origin spawners are returned from wild stock (NOAA 2003). The short-term λ based on the same assumption is 1.013 (NOAA 2003). Assuming that both hatchery and wild fish contribute to the natural production in proportion to their numbers, the long-term λ is 0.733 and short-term λ is 0.753 (NOAA 2003). In spite of the recent increases in numbers, most of the populations in this ESU with abundance data are still well below the interim abundance targets (Table 1).

2.2.2 Evaluating the Proposed Action

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). In conducting analyses of habitat-altering actions under section 7 of the ESA, NOAA Fisheries uses the following steps: (1) Consider the status and biological requirements of the species; (2) evaluate the relevance of the environmental baseline in the action area to the species' current status; (3) determine the effects of the proposed or continuing action on the species; (4) consider cumulative effects; and (5) determine whether the proposed action, in light of the above factors, is likely to appreciably reduce the likelihood of species survival in the wild or adversely modify its critical habitat. In completing this step of the analysis, NOAA Fisheries determines whether the action under consultation, together with all cumulative effects when added to the environmental baseline, is likely to jeopardize the continued existence of the ESA-listed species.

2.2.3 Biological Requirements

The first step NOAA Fisheries uses when applying ESA section 7(a)(2) to the listed ESUs considered in this Opinion is to define the species' biological requirements within the action area. Biological requirements are population characteristics necessary for the listed ESUs to survive and recover to naturally-reproducing population sizes, at which time protection under the ESA would become unnecessary. The listed species' biological requirements may be described as characteristics of the habitat, population or both (McElhany *et al.* 2000).

Important features of the adult spawning, juvenile rearing, and adult and migratory habitat for this species are: Substrate, water quality, water quantity, water temperature, water velocity, cover/shelter, food (juvenile only), riparian vegetation, space, and safe passage conditions. (Bjornn and Reiser, 1991, NOAA Fisheries 1996, Spence *et al.* 1996). The habitat features that the proposed projects may affect are: Substrate, water quality, water temperature, water velocity, cover/shelter, food, riparian vegetation and safe passage conditions.

2.2.4 Environmental Baseline

The environmental baseline is an analysis of the effects of past and ongoing human-caused and natural factors leading to the current status of the species or its habitat and ecosystem within the action area. The "action area" is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR 402.02). The action area for this consultation is the portion of Smith Creek from three hundred feet upstream of the Project area to the downstream extent of the sediment plume generated by the Project, approximately 0.5 miles.

The COE did not include specific information on environmental baseline conditions in the action area. In general, the Upper Grande Ronde River subbasin is a highly disturbed riverine system degraded by past and present timber harvest, mining, livestock grazing, flood control, and withdrawal of water for irrigation (Wissmar *et al.* 1994, McIntosh *et al.* 1994). Recent insect infestations and wildfires have contributed to degraded conditions in riparian areas throughout the subbasin. Low streamflow and high water temperatures are limiting factors for salmonids in the summer. Stream channelization for flood control and agricultural purposes has reduced habitat complexity and pool frequency and altered width to depth ratios. Habitat features for SR steelhead in the subbasin are, in general, not properly functioning.

2.2.5 Effects of the Proposed Action

Effects of the action are defined as: "The direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with the action, that will be added to the environmental baseline" (50 CFR 402.02). Direct effects occur at the Project site and may extend upstream or downstream, based on the potential for effects on listed species. Indirect effects are defined in 50 CFR 402.02 as "those that are caused by the proposed action and are later in time, but still are reasonably certain

to occur.” They include the effects on listed species or habitat of future activities that are induced by the proposed action and that occur after the action is completed. “Interrelated actions are those that are part of a larger action and depend on the larger action for their justification” (50 CFR 402.02). “Interdependent actions are those that have no independent utility apart from the action under consideration” (50 CFR 402.02).

Activities Involving In-water Work

Activities involving in-water and near-water construction will cause short-term adverse habitat effects and potentially result in harassment or harm of SR steelhead juveniles. Due to the timing of the instream construction activities, adult SR steelhead will not be present in the work areas.

The construction activities proposed as part of this project will require instream operation of heavy machinery and exposure of bare soil. This will produce sediment plumes sufficient to cause harm to any listed anadromous salmonids present or downstream during construction activities and potentially during subsequent high flow events. Potential effects include mortality from exposure to suspended sediments (turbidity) or contaminants, and behavioral changes resulting from elevated turbidity level (Sigler *et al.* 1984, Berg and Northcote 1985, Whitman *et al.* 1982, Gregory and Levings 1998) during in-water construction.

Suspended sediment and turbidity influences on fish reported in the literature range from beneficial to detrimental. Elevated total suspended solids (TSS) conditions have been reported to enhance cover conditions, reduce piscivorous fish/bird predation rates, and improve survival. Elevated TSS conditions have been reported to cause physiological stress, reduce growth, and adversely affect survival. Of key importance in considering the detrimental effects of TSS on fish are the frequency and the duration of the exposure, not just the TSS concentration.

Behavioral avoidance of turbid waters may be one of the most important effects of suspended sediments (DeVore *et al.* 1980, Birtwell *et al.* 1984, Scannell 1988). Salmonids have been observed to move laterally and downstream to avoid turbid plumes (McLeay *et al.* 1984, 1987, Sigler *et al.* 1984, Lloyd 1987, Scannell 1988, Servizi and Martens 1991). Juvenile salmonids tend to avoid streams that are chronically turbid, such as glacial streams or those disturbed by human activities, unless the fish need to traverse these streams along migration routes (Lloyd *et al.* 1987).

Fish that remain in turbid, or elevated TSS, waters experience a reduced predation from piscivorous fish and birds (Gregory and Levings 1998). In systems with intense predation pressure, this provides a beneficial trade-off (*e.g.*, enhanced survival) with the cost of potential physical effects (*e.g.*, reduced growth). Turbidity levels of about 23 Nephelometric Turbidity Units (NTU) have been found to minimize bird and fish predation risks (Gregory 1993). Exposure duration is a critical determinant of the occurrence and importance of physical or behavioral effects (Newcombe and MacDonald 1991). Salmonids have evolved in systems that periodically experience short-term pulses (days to weeks) of high suspended sediment loads, often associated with flood events, and are adapted to such high pulse exposures. Adult and larger juvenile salmonids may be little affected by the high concentrations of suspended

sediments that occur during storm and snowmelt runoff episodes (Bjornn and Reiser 1991). However, research shows that chronic exposure can cause physiological stress responses that can increase maintenance energy and reduce feeding and growth (Redding *et al.* 1987, Lloyd 1987, Servizi and Martens 1991).

Turbidity, at moderate levels, has the potential to adversely affect primary and secondary productivity, and at high levels, has the potential to injure and kill adult and juvenile fish, and may also interfere with feeding (Spence *et al.* 1996). Newly-emerged salmonid fry may be vulnerable to even moderate amounts of turbidity (Bjornn and Reiser 1991). Other behavioral effects on fish, such as gill flaring and feeding changes, have been observed in response to pulses of suspended sediment (Berg and Northcote 1985). Fine, redeposited sediments have the potential to adversely affect primary and secondary productivity (Spence *et al.* 1996), and to reduce incubation success (Bell 1991) and cover for juvenile salmonids (Bjornn and Reiser 1991).

There is a potential for fuel or other contaminant spills associated with use of heavy equipment in or near the stream. Operation of the back-hoes, excavators, and other equipment requires the use of fuel and lubricants, which, if spilled into the channel of a waterbody or into the adjacent riparian zone, can injure or kill aquatic organisms. Petroleum-based contaminants, such as fuel, oil, and some hydraulic fluids, contain poly-cyclic aromatic hydrocarbons (PAHs), which can be acutely toxic to salmonids at high levels of exposure and can also have chronic lethal and acute and chronic sublethal effects on aquatic organisms (Neff 1985). Because the potential for chemical contamination should be localized and brief, and machinery will operate from the streambank, the probability of direct mortality is negligible.

The new stream channel will provide more suitable habitat for salmonids, and the newly-planted vegetation will provide shade. Moving the stream channel out of the roadside ditch and livestock corral will reduce the amount of fine sediment added to the stream channel in the long term. Streambank stability will be improved by moving the stream channel out of the livestock corral.

2.2.6 Cumulative Effects

“Cumulative effects” are defined in 50 CFR 402.02 as those effects of “future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation.”

Water withdrawal for irrigation, agriculture, and livestock grazing are likely to occur at present levels in the Upper Grande Ronde River subbasin for the foreseeable future. Between 1990 and

2000, the population of Union County increased by 3.9%.¹ Thus, NOAA Fisheries assumes that future private and state actions will continue within the action area, but at increasingly higher levels as population density climbs. Most future actions by the State of Oregon are described in the Oregon Plan for Salmon and Watershed measures, which includes a variety of programs designed to benefit salmon and watershed health.

2.2.7 Conclusion

NOAA Fisheries concludes that, when the effects of the subject action addressed in this Opinion are added to the environmental baseline and cumulative effects occurring in the action area, they are not likely to jeopardize the continued existence of SR steelhead.

NOAA Fisheries' conclusions are based on the following considerations: (1) All instream work will occur during the in-water work window for this area, and instream work will be limited to the amount described in the BA; (2) all disturbed soils will be replanted with native vegetation; and (3) an improvement in water quality of Smith Creek will result from the proposed action. Thus, the proposed action is not expected to impair properly functioning habitats, appreciably reduce the functioning of already impaired habitats, or retard the long-term progress of impaired habitats toward proper functioning condition essential to the long-term survival and recovery at the population or ESU scale.

2.2.8 Reinitiation of Consultation

As provided in 50 CFR 402.16, reinitiation of formal consultation is required if: (1) The amount or extent of taking specified in the incidental take statement is exceeded, or is likely to be exceeded; (2) new information reveals that action may affect listed species in a way not previously considered; (3) the action is modified in a way that causes an effect on listed species that was not previously considered; or (4) a new species is listed or critical habitat is designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operation causing such take must cease, pending conclusion of the reinitiated consultation. This Opinion and incidental take statement cover the described actions that are completed within five years of the signature date. Any activities not completed by that date will require subsequent consultations. To reinitiate consultation, the COE must contact the Habitat Conservation Division of NOAA Fisheries, Oregon State Habitat Office and refer to NOAA Fisheries No.: **2004/00191** (for SR steelhead) and/or **2004/00357** (for SR chinook).

¹ U.S. Census Bureau, State and County Quickfacts, Union County, Oregon. Available at: <http://quickfacts.census.gov>

2.3 Incidental Take Statement

The ESA at section 9 [16 USC 1538] prohibits take of endangered species. The prohibition of take is extended to threatened anadromous salmonids by section 4(d) rule [50 CFR 223.203]. Take is defined by the statute as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct” [16 USC 1532(19)]. Harm is defined by regulation as “an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavior patterns, including breeding, spawning, rearing, migrating, feeding or sheltering” [50 CFR 222.102]. Harass is defined as “an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering” [50 CFR 17.3]. Incidental take is defined as “takings that result from, but are not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or applicant” [50 CFR 402.02]. The ESA at section 7(o)(2) removes the prohibition from any incidental taking that is in compliance with the terms and conditions specified in a section 7(b)(4) incidental take statement [16 USC 1536].

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply to implement the reasonable and prudent measures.

2.3.1 Amount or Extent of the Take

The proposed action is reasonably certain to result in incidental take of juvenile SR steelhead. NOAA Fisheries is reasonably certain the incidental take described here will occur because: (1) The listed species is known to occur in the action area; and (2) the proposed action is likely to cause impacts significant enough to cause death or injury, or impair feeding, breeding, migrating, or sheltering for the listed species.

Some level of incidental take is expected to result from injury or death of juvenile SR steelhead. The temporary increase in sediment and turbidity is expected to cause fish to avoid disturbed areas of the stream, both within and downstream from the Project area. The potential for incidental take in the form of death or sublethal effects exists if toxicants are introduced into the water. Incidental take in the form of behavior modification (avoidance) is expected from riparian disturbance caused by the proposed Project. This take is expected to be reduced as newly-planted riparian vegetation is established and loose soil is stabilized.

Because of the inherent biological characteristics of aquatic species such as SR steelhead, the likelihood of discovering take attributable to this action is very limited. Take associated with the effects of actions such as these is largely unquantifiable in the short term, and may not be measurable as long-term effects on the species' habitat or population levels. Therefore, although NOAA Fisheries expects the habitat-related effects of these actions to cause some low level of

incidental take, the best scientific and commercial data available are not sufficient to enable NOAA Fisheries to estimate a specific amount of incidental take because of those habitat-related effects. In instances such as these, NOAA Fisheries designates the expected level of take as “unquantifiable.”

2.3.2 Effect of Take

In this Opinion, NOAA Fisheries determines that this level of anticipated take is not likely to result in jeopardy to SR steelhead.

2.3.3 Reasonable and Prudent Measures

NOAA Fisheries believes that the following reasonable and prudent measures are necessary and appropriate to minimize the impact of incidental taking on the above species. The COE, in respect to their proposed activities addressed in this Opinion, shall:

1. Avoid or minimize the amount and extent of take resulting from general construction activities, riparian disturbance, in-water work, and new channel design required to complete the proposed Project addressed in this Opinion.
2. Avoid or minimize the likelihood of incidental take from contaminant leaks and spills associated with the use of heavy equipment into and within watercourses.
3. Monitor the effects of the proposed action to determine the actual projects’ effects on listed fish (50 CFR 402.14 (i)(3)). Monitoring should detect adverse effects of the proposed action, assess the actual levels of incidental take in comparison with anticipated incidental take documented in the Opinion, and detect circumstances where the level of incidental take is exceeded.

2.3.4 Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, the action must be implemented in compliance with the following terms and conditions, which implement the reasonable and prudent measures described above for each category of activity. These terms and conditions are non-discretionary.

1. To implement reasonable and prudent measure #1 (general construction, riparian disturbance, and in-water work), the COE shall ensure that:
 - a. Minimum area. Confine construction impacts to the minimum area necessary to complete the Project.

- b. Timing of in-water work. Work below the bankfull elevation² will be completed using the most recent in-water work period (presently July 1 to October 31), as appropriate for the Project area, unless otherwise approved in writing by NOAA Fisheries.
- c. Cessation of work. Cease Project operations under high flow conditions that may result in inundation of the Project area, except for efforts to avoid or minimize resource damage.
- d. Preconstruction activity. Complete the following actions before significant³ alteration of the Project area.
 - i. Marking. Flag the boundaries of clearing limits associated with site access and construction to prevent ground disturbance of critical riparian vegetation, wetlands and other sensitive sites beyond the flagged boundary.
 - ii. Emergency erosion controls. Ensure that the following materials for emergency erosion control are onsite.
 - (1) A supply of sediment control materials (*e.g.*, silt fence, straw bales).⁴
 - iii. Temporary erosion controls. All temporary erosion controls will be in-place and appropriately installed downslope of Project activity within the riparian area until site restoration is complete.
 - iv. General erosion control. Practices will be carried out to prevent erosion and sedimentation associated with access roads, stream crossings, drilling sites, construction sites, borrow pit operations, haul roads, equipment and material storage sites, fueling operations, staging areas, and roads being decommissioned.
 - v. Inspection of erosion controls. During construction, monitor instream turbidity and inspect all erosion controls daily during the rainy season and weekly during the dry season, or more often as necessary, to ensure the erosion controls are working adequately.⁵
 - (1) If monitoring or inspection shows that the erosion controls are ineffective, mobilize work crews immediately to make repairs, install replacements, or install additional controls as necessary.

² 'Bankfull elevation' means the bank height inundated by a 1.5 to 2-year average recurrence interval and may be estimated by morphological features such average bank height, scour lines and vegetation limits.

³ 'Significant' means an effect can be meaningfully measured, detected or evaluated.

⁴ When available, certified weed-free straw or hay bales will be used to prevent introduction of noxious weeds.

⁵ 'Working adequately' means that Project activities do not increase ambient stream turbidity by more than 10% above background 100 feet below the discharge, when measured relative to a control point immediately upstream of the turbidity causing activity.

- (2) Remove sediment from erosion controls once it has reached 1/3 of the exposed height of the control.
 - e. Heavy Equipment. Restrict use of heavy equipment as follows:
 - i. Choice of equipment. When heavy equipment will be used, the equipment selected will have the least adverse effects on the environment (*e.g.*, minimally-sized, low ground pressure equipment).
 - f. Site preparation. Conserve native materials for site restoration.
 - i. If possible, leave native materials where they are found.
 - ii. If materials are moved, damaged or destroyed, replace them with a functional equivalent during site restoration.
 - iii. Stockpile any large wood,⁶ native vegetation, weed-free topsoil, and native channel material displaced by construction for use during site restoration.
 - g. Earthwork. Complete earthwork (including drilling, excavation, dredging, filling and compacting) as quickly as possible.
 - i. Site stabilization. Stabilize all disturbed areas following any break in work unless construction will resume within four days.
 - ii. Source of materials. Obtain boulders, rock, woody materials and other natural construction materials used for the Project outside the riparian area.
 - iii. Excavated material. Remove all excavated material for the new channel out of the 100-year floodplain.
 - h. Pesticides. Take of ESA-listed species caused by any aspect of pesticide use is not included in the exemption to the ESA take prohibitions provided by this incidental take statement. Pesticide use must be evaluated in an individual consultation, although mechanical or other methods may be used to control weeds and unwanted vegetation.
 - i. Fertilizer. Do not apply surface fertilizer within 50 feet of any stream channel.
 - j. New channel design. Place large woody debris on the outside bend of the stream channel at the new channel diversion point to decrease the risk of a channel avulsion occurring and cutting off the newly-created channel.
2. To implement reasonable and prudent measure #2 (pollution control), the COE shall ensure that:
- a. Pollution Control Plan. Prepare and carry out a pollution and erosion control plan to prevent pollution caused by surveying or construction operations. The plan must be available for inspection on request by NOAA Fisheries.

⁶ For purposes of this Opinion only, 'large wood' means a tree, log, or rootwad big enough to dissipate stream energy associated with high flows, capture bedload, stabilize streambanks, influence channel characteristics, and otherwise support aquatic habitat function, given the slope and bankfull channel width of the stream in which the wood occurs. See Oregon Department of Forestry and Oregon Department of Fish and Wildlife, *A Guide to Placing Large Wood in Streams*, May 1995 (www.odf.state.or.us/FP/RefLibrary/LargeWoodPlacemntGuide5-95.doc).

- i. Plan Contents. The pollution and erosion control plan will contain the pertinent elements listed below, and meet requirements of all applicable laws and regulations.
 - (1) The name and address of the party(s) responsible for accomplishment of the pollution and erosion control plan.
 - (2) Practices to confine, remove and dispose of excess concrete, cement, grout, and other mortars or bonding agents, including measures for washout facilities.
 - (3) A description of any regulated or hazardous products or materials that will be used for the Project, including procedures for inventory, storage, handling, and monitoring.
 - (4) A spill containment and control plan with notification procedures, specific cleanup and disposal instructions for different products, quick response containment and cleanup measures that will be available on the site, proposed methods for disposal of spilled materials, and employee training for spill containment.
 - (5) Practices will be carried out to prevent construction debris from dropping into any stream or waterbody, and to remove any material that does drop with a minimum disturbance to the streambed and water quality.
- ii. Vehicle and material staging. Store construction materials, and fuel, operate, maintain and store vehicles as follows.
 - (1) To reduce the staging area and potential for contamination, ensure that only enough supplies and equipment to complete a specific job will be stored on-site.
 - (2) Complete vehicle staging, cleaning, maintenance, refueling, and fuel storage in a vehicle staging area placed outside of any riparian areas, unless otherwise approved in writing by NOAA Fisheries.
 - (3) Inspect all vehicles operated within an riparian areas daily for fluid leaks before leaving the vehicle staging area. Repair any leaks detected in the vehicle staging area before the vehicle resumes operation. Document inspections in a record that is available for review on request by NOAA Fisheries.
- b. Construction discharge water. Treat all discharge water created by construction (e.g., concrete washout, pumping for work area isolation, vehicle wash water, drilling fluids) as follows:
 - i. Water quality. Design, build and maintain facilities to collect and treat all construction discharge water using the best available technology applicable to site conditions. Provide treatment to remove debris, nutrients, sediment, petroleum hydrocarbons, metals and other pollutants likely to be present.
 - ii. Discharge velocity. If construction discharge water is released using an outfall or diffuser port, velocities may not exceed 4 feet per second, and the maximum size of any aperture may not exceed one inch.

- iii. Pollutants. Do not allow pollutants including green concrete, contaminated water, silt, welding slag, sandblasting abrasive, or grout cured less than 24 hours to contact any wetland or the two-year floodplain.
3. To implement reasonable and prudent measure #3 (monitoring), the COE shall:
- a. Reporting. Within one year of Project completion, the COE will submit a monitoring report to NOAA Fisheries describing the COE's success in meeting the terms and conditions contained in this Opinion Include the following information:
 - i. Project identification
 - (1) Project name.
 - (2) Type of activity.
 - (3) Project location, by 6th field HUCs and by latitude and longitude as determined from the appropriate USGS 7-minute quadrangle map.
 - (4) COE contact person.
 - (5) Starting and ending dates for work completed.
 - ii. Photo documentation. Photos of habitat conditions at the project and any compensation site(s), before, during, and after Project completion.⁷
 - (1) Include general views and close-ups showing details of the Project and Project area, including pre and post construction.
 - (2) Label each photo with date, time, project name, photographer's name, and a comment about the subject.
 - iii. Other data. Additional project-specific data, as appropriate.
 - (1) Work cessation. Dates work ceased due to high flows, if any.
 - (2) Fish screen. Evidence of compliance with NOAA Fisheries' fish screen criteria.
 - (3) Pollution control. A summary of pollution and erosion control inspections, including any erosion control failure, contaminant release, and correction effort.
 - (4) Site preparation.
 - (a) Total cleared area – riparian and upland.
 - (b) Total new impervious area.
 - (5) Streambank protection.
 - (a) Type and amount of materials used.
 - (b) Project size – one bank or two, width and linear feet.
 - (6) Site restoration. Photo or other documentation that site restoration performance standards were met.
 - (7) Long-term habitat loss. The same elements apply as for monitoring site restoration.

⁷ Relevant habitat conditions may include characteristics of channels, eroding and stable streambanks in the Project area, riparian vegetation, water quality, flows at base, bankfull and over-bankfull stages, and other visually discernable environmental conditions at the Project area, and upstream and downstream of the Project.

- b. Effectiveness monitoring. Gather any other data or analyses the COE deems necessary or helpful to complete an assessment of habitat trends in stream and riparian conditions as a result of this project.
- c. Lethal take. If a sick, injured, or dead specimen of a threatened or endangered species is found, the finder must notify the Vancouver Field Office of NOAA Fisheries Law Enforcement at (360) 418-4246. The finder must take care in handling sick or injured specimens to ensure effective treatment, and in handling dead specimens to preserve biological material in the best possible condition for later analysis of cause of death. The finder also has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not disturbed unnecessarily.
- d. Report submission. Submit a copy of the report to the Oregon State Habitat Office of NOAA Fisheries.

Oregon State Director
Habitat Conservation Division
National Marine Fisheries Service
Attn: **2004/00191** and **2004/00357**
525 NE Oregon Street
Portland, OR 97232

3. MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT

3.1 Background

The MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires the inclusion of EFH descriptions in Federal fishery management plans. In addition, the MSA requires Federal agencies to consult with NOAA Fisheries on activities that would adversely affect EFH.

EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA §3). For the purpose of interpreting the definition of EFH: “Waters” include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; “substrate” includes sediment, hard bottom, structures underlying the waters, and associated biological communities; “necessary” means the habitat required to support a sustainable fishery and the managed species’ contribution to a healthy ecosystem; and “spawning, breeding, feeding, or growth to maturity” covers a species’ full life cycle (50 CFR 600.110).

Section 305(b) of the MSA (16 U.S.C. 1855(b)) requires that:

- Federal agencies must consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH;
- NOAA Fisheries shall provide conservation recommendations for any Federal or state activity that may adversely affect EFH;
- Federal agencies shall, within 30 days after receiving conservation recommendations from NOAA Fisheries, provide a detailed response in writing to NOAA Fisheries regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NOAA Fisheries, the Federal agency shall explain its reason for not following the recommendations.

The MSA requires consultation for all actions that may adversely affect EFH, and does not distinguish between actions within EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside EFH, such as upstream and upslope activities, that may have an adverse effect on EFH. Therefore, EFH consultation with NOAA Fisheries is required by Federal agencies undertaking, permitting or funding activities that may adversely affect EFH, regardless of its location.

3.2 Identification of EFH

The Pacific Fisheries Management Council (PFMC) has designated EFH for three species of Pacific salmon: Chinook (*Oncorhynchus tshawytscha*); coho (*O. kisutch*); and Puget Sound pink salmon (*O. gorbuscha*) (PFMC 1999). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other waterbodies currently or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream from certain impassable man-made barriers (as identified by the PFMC), and longstanding, naturally-impassable barriers (*e.g.*, natural waterfalls in existence for several hundred years). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the *Pacific Coast Salmon Plan* (PFMC 1999). Assessment of potential adverse effects to these species' EFH from the proposed action is based on this information.

3.3 Proposed Actions

The proposed action is detailed above in section 1.2 of the ESA portion of this Opinion. The action area includes watersheds within the Upper Grande Ronde River subbasin. This area has been designated as EFH for various life stages of chinook and coho salmon.

3.4 Effects of Proposed Action

The effects on chinook and coho salmon habitat are the same as those for SR steelhead and are described in detail in section 2.2.1 of this document. The proposed action may result in short-term adverse effects on a variety of habitat parameters. These adverse effects are:

1. Riparian disturbance from accessing construction areas and construction activities performed from the bank.
2. Increased sedimentation from instream construction activities.

3.5 Conclusion

NOAA Fisheries believes that the proposed action will adversely affect EFH for chinook salmon and coho salmon.

3.6 EFH Conservation Recommendations

Pursuant to section 305(b)(4)(A) of the MSA, NOAA Fisheries is required to provide EFH conservation recommendations for any Federal or state agency action that may adversely affect EFH. In addition to conservation measures proposed for the project by the COE, all of the reasonable and prudent measures and the terms and conditions contained in sections 2.3.3 and 2.3.4 (respectively) of the ESA portion of this Opinion are applicable to salmon EFH. Therefore, NOAA Fisheries incorporates each of those measures here as EFH conservation recommendations.

3.7 Statutory Response Requirement

The MSA (section 305(b)) and 50 CFR 600.920(j) requires the COE to provide a written response to NOAA Fisheries' EFH conservation recommendations within 30 days of its receipt of this letter. The response must include a description of measures proposed to avoid, mitigate, or offset the adverse impacts of the activity on EFH. If the response is inconsistent with NOAA Fisheries' conservation recommendations, the COE shall explain its reasons for not following the recommendations.

3.8 Supplemental Consultation

The COE must reinitiate EFH consultation with NOAA Fisheries if either the action is substantially revised or new information becomes available that affects the basis for NOAA Fisheries' EFH conservation recommendations (50 CFR 600.920).

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